Fixed in Time: A Brief History of Kahoolawe

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Kahoolawe, the smallest of the eight main islands in the Hawaiian group, is dry, barren and seemingly abused by both man and his gods. Loneliness is the characteristic that must be emphasized in any description of the island. High winds deflected from Maui's Haleakala Crater sweep over the isle's terrain with a force which sends clouds of red dirt miles over the ocean—an effect that resembles a colorful, mystical storm. The island's sounds are almost exclusively produced by rustling pili grass, creaking cactus and keawe and the splash of Pacific surf. Nature's right to govern Kahoolawe's mood is periodically challenged by United States Navy aircraft and ships which bomb and shell the area. At night flashes from the detonations can be observed from neighboring Lanai, Molokai, Maui and Hawaii.

Geologists describe the volcanic origin of Kahoolawe as occurring during the early Pleistocene Epoch about 1.5 million years ago.[1] It is speculated that west Maui, east Lanai, east Molokai and Kahoolawe were at one time all interconnected. But erosion and a 250 foot elevation of the shoreline during the Aftonian Interglacial submerged those areas that had been adjoined. Currently, with the elements and man daily wearing away its surface, Kahoolawe is 10.9 miles long, 6.4 miles wide, 1,472 feet in altitude with a total area of 45 square miles.[2]

Hawaiian legend gives another interpretation of the island's creation. In the chant of the high-priest, Kahakukamoana, chiefly families from Nuumea, Holani, Tahiti and Polapola (Bora Bora)

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settled on various islands in Hawaii, thus poetically bringing them to life. According to native myth,

> Kahoolawe is said to be the child of Keaukanai, the man, and Walinuu, the wife, from Holani; and the epithet of the island-child is 'the farmer', he lopa. Molokini (a small islet in mid-channel between Maui and Kahoolawe) has no separate settlers but is called navel-string-lewe-of Kahoolawe.[3]

In the centuries prior to the white man's arrival the western point of Kahoolawe gained considerable importance as a landmark indicating the direction of Tahiti. For this reason the cape was called Ke-ala-i Kahiki (the route to Tahiti).

The Hawaiian historian, Malo, explained that the natives managed to plant potatoes, yams and sugar cane on the island. An absence of taro cultivation was due to the extreme aridity of the area.[4] More recent evidence indicates that the Hawaiians living on Kahoolawe prior to Cook's discovery were never more than semi-permanent residents. Fishing and not agriculture was the principal source of food. Kahoolawe served as a base for a fishing population which never totaled more than 150 persons before 1778.[5]

Early European explorers left brief descriptions of the island. Noticeably absent are favorable impressions concerning Kahoolawe's beauty or capacity to support life. Directly after Cook's death in February of 1779, the small bleak and isolated island off Maui's southern shore probably did little to alleviate the grief of the crews on the *Discovery* and the *Resolution* when they sailed close by. Lieutenant King, a British officer aboard one of the ships, wrote, "This island is destitute of wood, and the soil seems to be sandy and barren."[6] Forty years later Jacques Arago, the official recorder of a French expedition, gave a more lengthy and poetic opinion of Kahoolawe:

> Geology has its eternal laws and we have already excessively studied the appearance of the principal island in this archipelago not to go ahead and look either near or far for isolated debris from Mauna Kea. Before the corvette Kahoolawe raised itself, reddish on its flanks, black at its base, bronze colored at its summit; Kahoolawe island of rock, fortified, indented with sharp ridges similar to a decrepit wall of lava chiseled by time.
>
> Who, therefore, has touched this sterile soil? Who has tried to scale the formidable ramparts on which the waves violently rumble and break. No one. Dangerous and prolonged reefs surround Kahoolawe as if the rock itself was trying to resist man's conquest; as if the reefs wanted to forbid all intrusion upon the riches which the island hides. Kahoolawe will be forever deserted because life there is impossible.[7]

The Imperial Russian Navy's Lieutenant Von Kotzebue presented evidence of human life on the island. During the night of November 25, 1816, his ship fell into a trade wind which took him and his crew so close to Kahoolawe that they sighted a number of fires along the coastline.[8]

Contact with Western civilization did not change conditions or the population on Kahoolawe immediately. It continued to serve as a fishing station for native canoes well into the 19th Century. Beginning in 1830 the island would be used as a penal colony for the monarchy. For a time, Kaahumanu, Hawaii's Kuhina Nui, contemplated its use as a place of exile for the Catholic population of Hawaii. By 1840, the crimes of theft and adultery were commonly, though not exclusively, punished by banishment to Kahoolawe for men and to Lanai for women. A particular Maui Chief, Kinimaka, who had been found guilty of forgery, was placed in command of Kahoolawe's convicts. On the island's northwest end at a bay called Kaulana a settlement was built under Kinimaka's supervision. After Kahoolawe's designation as an isle of exile, most of its fishing population steadily moved to Honuaula, Maui.[9]

On March 9, 1841, the convicts were joined by a party from Commander Wilkes' United States Navy Expedition. Several American seamen under Lieutenant Budd were stranded on the island when their small boat ran into heavy seas and sank just off its shore.

Before meeting the local inhabitants Budd reported that he and his men wandered twenty miles—a distance which may have been exaggerated since they sank ankle deep in sand and soil with almost every step. Budd considered Kahoolawe's northern sections "susceptible of cultivation." To the south, a light layer of decomposed lava was determined to be retarding the growth of vegetation.

The castaways met Kinimaka and fifteen prisoners in his charge at a village consisting of eight huts and an unfinished adobe church. Here, the Americans were supplied with clothing and shared the community's scanty fare. Apparently, Kinimaka's three canoes were not used to transport Lieutenant Budd and his men to any of the other islands and the sailors had to wait six days before Commander Wilkes could rescue them.[10]

A few days prior to Lieutenant Budd's mishap, Kahoolawe's more permanent residents had been undertaking prohibited journeys to Maui in an effort to resupply their food stores. Most of the convicts were suffering from dysentery due to a steady diet of kupala, a feed for hogs. They resolved to reduce their discomfort and in late

February, 1841, the exiles began the first of a series of foraging trips northward across Alalakeiki Channel. A wiliwili log with a fastened rope and stone anchor was placed offshore where the tide ran swiftly. When the primitive bouy indicated a strong current moving towards Maui, several of the best swimmers in the group prayed to the old gods and set out upon their adventures. They reached Molokini in mid-channel, rested for a time and continued on their way. By nightfall, the band reached Puuolai, Maui, where they rested again before plundering the local potato patches. The banditry continued for three nights before several canoes were appropriated and the group returned to Kahoolawe. Judging from the craft at their disposal, the native prisoners may have had good reason for not immediately conveying Budd and his party back to civilization.

The convicts made more raids upon Kalepolepo, Maalaea, Ukumehame, Olowalu and Waikapu—all on Maui. With each trip they procured enough canoes, potatoes and taro to make survival certain. Other needs began to attract their attention. It was not long before they succeeded in landing at Lae-o-Kaena, Lanai and bringing the female prisoners to Kahoolawe. The boldness of these actions did not bring reprisals from the Hawaiian government. Perhaps a lack of interest combined with a lack of resources limited the monarchy's activities in containing the problem. The exploits of the Kahoolawian prisoners probably marked the only period that the island's inhabitants carried on anything resembling successful though minuscule aggression.

During the British occupation of Honolulu, February to July 1843, the law banishing criminals to Kahoolawe was abrogated. With the restoration of Hawaiian independence on July 31, royal pardon was extended to the Kahoolawe exiles as well as others imprisoned during the period of British control.[11]

The last person to serve a sentence on Kahoolawe was a white man, a shoemaker named George Morgan. Convicted of stealing money in 1847, Morgan would serve five years on the island before inadequate food supply and brackish water dangerously impaired his health. He finally had to be brought to Lahaina for medical

This group was on Kahoolawe about 1911 attempting to exterminate the goats. Back row, l. to r., Ralph Hosmer, Territorial Forester; William P. Jarrett, Sheriff of Oahu and later Delegate to Congress; Alika Dowsett; Arthur Deverell (?); Kauhane, a cowboy; Epena Maikai; not identified. Seated: Eugene Duvauchelle; Charles Thompson; Eben Low, who had held the lease on Kahoolawe; and Lawrence Gay. (Identifications were made by E. Woods Low and Mr. and Mrs. Lawrence Gay; photo from Division of Forestry, Dept. of Land and Natural Resources.)

attention. As the native convicts had done some years earlier, Morgan was able to convince two women to share his company, making his term of exile more tolerable than it might have been.[12]

Following the termination of Morgan's banishment repeated attempts were made to turn Kahoolawe into grazing land. Leases of the island to various politicians, businessmen, and ranchers were secured between 1858 and 1910. At the latter date Kahoolawe was proclaimed a forest reserve.

As early as March 1849, Z. Kaauwai attempted to purchase Kahoolawe from the government for $400.[13] The monarchy's Privy Council declined the offer as well as two applications to lease the island by Z. Kaauwai and C. C. Harris in 1854.[14] Capable of exerting more influence were the Hawaiian Kingdom's Chief Justice, Elisha H. Allen and Minister of Foreign Affairs, Robert C. Wyllie. In the spring of 1858, the two formed a partnership and acquired the lease of Kahoolawe for twenty years at $505 a year. Both men held high hopes for a sheep ranch and their correspondence referred to future wealth which would make possible "diamonds for the Countess de Allen" and a "Castellated Mansion."[15] An inspection conducted by W. F. Allen in May of 1858 was encouraging. The island's animal population, dogs, hogs and goats, was limited in number and the soil was deemed capable of producing sufficient feed for sheep.[16] But the optimism was short-lived. During the summer of 1859, it was discovered that three-fourths of Kahoolawe's 2,075 imported sheep had contracted scab, a disease "very infectious and altogether incompatible with the growth of wool."[17] The government's chief minister grew nervous and on July 7, 1859, he requested that Allen release him of his interests in the scheme.[18] Allen obtained a single lease for the island with an annual rental of $250 for fifty years. During a visit by Kalakaua in late 1875 it was noted that Kahoolawe supported 2,000 sheep and 10 horses. The livestock were under the care of two foreigners who with their wives and children were the only humans inhabiting the area.[19]

By March 1880, the lease was turned over to the partnership of Albert D. Courtney and William H. Cummings whose projected aim was to eventually turn the isle into grazing land for cattle. But first, great herds of sheep and goats had to be exterminated. An

Smugglers Cove, Kahoolawe. Upper photo: A group of soldiers who visited the island in 1918. Lower photo: the same beach in 1970. The background indicates that in spite of goats and bombs, vegetation is increasing. (Photos courtesy of Russell LeBarron, Div. of Forestry, Dept. of Land and Natural Resources)

effort was made to prevent top soil from being blown away by the planting of trees. This was to be the first in a long line of recorded conservation attempts on the island, all of which would ultimately fail. Yet, at the time, the project appeared to have a reasonable chance of success. *The Hawaiian Gazette* could jokingly predict "A year or two of prosperity and we shall have Kahoolawe petitioning to be enfranchised."[20]

Neither profit nor petition were made. On April 27, 1887, a new lease was assigned to the Kynnersly Brothers and Randall Von Tempski. They brought an additional 900 head of cattle and 1,200 sheep to the island. Drought and meager vegetation would force the third lease holders to sell. They were followed by a rapid succession of lease assignees—B. F. Dillingham Company, Ltd., in 1901, C. C. Conradt in December of 1903 and Eben P. Low in December of 1906. In 1909 there were 40 head of cattle, 40 head of horses, about 3,200 sheep and 5,000 goats on the island.[21]

The short duration of the lease holdings was an indication of the financial losses suffered by those investing in Kahoolawe. Losses would continue as long as moisture trapping vegetation disappeared. Vegetation would continue to disappear as long as large numbers of grazing animals fed on the island. Anyone with interests on Kahoolawe was thus caught in a vicious circle. Quick profits were almost impossible and long range gains were by no means certain.

The plight of Kahoolawe's investors was in large part due to the island's natural characteristics. Strong northerly winds are redirected off Haleakala towards Kahoolawe making it the windiest of the eight major Hawaiian islands. Maui robs moisture from the clouds to the northeast and its southern neighbor is dependent upon Kona storms for rain. Rainfall recorded on the island has ranged from 8 to 27 inches per year.[22] In addition, the introduction of livestock upset the ecology of Kahoolawe. A subsequent loss of plant life accelerated the island's erosion. C. S. Judd wrote in 1916,

> The innumerable sheep and goats cropped the grass and other herbage so closely that the sod cover was broken. This gave the entering wedge for the wind to exert its influence on the light top soil. This unprotected and exposed soil could not stand the force of the strong trade wind but was lifted little by little and carried southwest across the island many miles out to sea in a great red cloud. In this manner the top of the island which was once covered with four to eight feet of good soil has been reduced largely to hardpan. . . . The area affected in this manner by aeolian erosion covers, fortunately, only about one-third of the island on the higher elevations. One-third, as already has been stated in the more sheltered parts is covered with pili and other grasses in which there is growing up

a fine stand of young algaroba trees. The remaining one-third, toward the southeast is at the lower elevation and is very rocky and barren.[23]

PROFIT AND LOSS

Governor Frear proclaimed the island a Territorial Forest Reserve in 1910. After he briefly visited Kahoolawe late in 1911, it was decided that the area could only be saved by the elimination of grazing animals. Eben Low was employed in the double task of ridding the island of his own livestock and thousands of wild sheep and goats.[24]

A research expedition under taken by Charles Forbes in 1913 for the Bishop Museum revealed that Kahoolawe had 16 native plants and 15 introduced species. A tree tobacco *(Nicotiana Glauca)* was the most common species probably because the animals would not eat it.[25]

By 1918 the Territorial reclamation project had proven itself unsuccessful. On January 1, 1918, Angus MacPhee, a cowboy from Wyoming and ex-manager of the Ulupalakua Ranch on Maui, secured the Kahoolawe lease for 21 years at $200 a year. Terms of the lease stipulated that in 4 years all the goats and sheep would be removed. In time, MacPhee hoped that the island's vegetation would support cattle.

At the end of two years MacPhee managed to slaughter or capture and sell over twelve thousand goats and sheep. Twelve Hawaiian cowboys under Jack Aina were recruited for the extermination. The last of the herds became harder to track and some animals were able to find refuge along the cliffs and caves of the island's eastern sections. Thus, in spite of the preparation and work, the first phase of the island's recovery was not a complete success. The sheep and goat population, though considerably reduced, was not thoroughly destroyed.

The attempt to build Kahoolawe into a profitable enterprise was initiated with the erection of ten redwood water tanks of ten thousand gallons capacity. In addition, there were several 5,000 gallon tanks built. Fencing and corrals were constructed and five thousand trees planted. Also, hundreds of pounds of Australian salt-bush and grass seed were spread over the island. In time, the plants began to thrive in the rich volcanic soil irrigated by trapped water. When two years had expired, Governor Wallace R. Farrington inspected MacPhee's accomplishments and extended the island's lease to 1953.

But Kahoolawe's misfortune, seemingly the island's dominant

trait, was soon to drive MacPhee to the brink of financial ruin. First, a young Hawaiian cowboy was killed one day when the surf was exceedingly high. His comrades, still influenced by superstition, were certain that his ghost remained on the island and some of them decided to leave.[26] Not long after, a recently built 50,000 gallon cistern lacked the proper amount of cement and collapsed under a storm's downpour. MacPhee was close to losing the $90,000 he had invested in Kahoolawe. Luckily, he was able to form a partnership with Harry Baldwin of the Maui Agricultural Company and was saved from bankruptcy. Another $90,000 was put into the island and the owners renamed their project Kahoolawe Ranch.[27]

The middle and late 1930's saw the reclamation of the area progressing at a slow but seemingly steady pace. A new sampan was built to haul cattle and water between Kahoolawe and Maui. Named the *Mazie C.*, the small boat was launched in April 1937. By 1938, 600 head of cattle were being fattened on the island as rains drenched the soil and the planted brush and grasses were watered.[28] A total investment of more than one hundred and ninety thousand dollars had been spent by January of 1941. But a small annual profit was also being made. Both MacPhee and Baldwin were confident of success.[29]

The events of December 7, 1941 were to drastically determine the future of Kahoolawe. The military commandeered the MacPhee sampan and forbid anyone to go to the island. Patriotism helped move Baldwin and MacPhee to sublease the island to the Army, Navy and Marines. Years of destructive bombing followed. Worse, numerous undetonated explosives made any future agricultural project almost impossible. Kahoolawe gained the somewhat sad distinction of being "the most shot at island in the world."[30]

The end of the war did not bring the re-establishment of the Kahoolawe Ranch. By the terms of contract with the Territorial Government, MacPhee and Baldwin had rights on the island until 1953. But the Navy was able to convince administrators in Honolulu that the demands of military preparedness should be met before those of private interest. Late in 1945, MacPhee and his daughter were allowed to go to Kahoolawe to survey the damage but the Navy refused to release the custody of the island.[31] The old rancher filed a $80,000 suit against the Navy in 1946 when it appeared that Washington was neither allowing him to reclaim his properties nor compensating him for his financial losses. MacPhee was never able to regain his holding and died in 1948.[32]

A year after the war, the Territorial Government began to

formulate designs of its own concerning Kahoolawe. Colin G. Lennox, President of the Territorial Board of Agriculture and Forestry, declared a program to rid the island of its goats and sheep and restock it with game birds.[33] In 1947, the board proposed an end to the MacPhee-Baldwin and Navy leases and a transfer of Kahoolawe to Lennox's department.[34] During the Korean War and the McCarthy era there was a change of heart. By the autumn of 1952, a committee headed by Lennox abandoned former Territorial plans and suggested that the United States Department of Defense take full control of the area. The committee explained that thousands of undetonated shells made the island impossible "for many hundreds of years to come to (for) grazing or development of feral animals in game reserve."[35]

Not long after the committee's decision, an Executive Order of February 20, 1953, directed the Navy to assume complete authority over Kahoolawe. Provisions were made which assured Washington's support for soil conservation and the limitation of all "cloven hooved animals" to not more than two hundred in number. The Territory was guaranteed the right to ascertain the extent of flora and fauna as well as sow seed on the island when it was not being used for Naval operations. Finally, the Federal Government undertook the obligation of removing all undetonated explosives once Kahoolawe was no longer deemed necessary for military purposes.[36]

The ensuing years brought no real effort to halt erosion or to restore plant life in the area. Navy reconstruction was relegated to building target sites. In April of 1958, the population of Kahoolawe reached a peak of 80 inhabitants when Navy Seabees landed to build new targets and rehabilitate access roads to the island's two simulated airfields.[37]

THE BATTLE FOR KAHOOLAWE

During the 1950's and 1960's, Pearl Harbor's spokesmen claimed that Kahoolawe's bombardment was still as essential to the defense of the United States as it had been during World War II. In addition, Navy personnel were quick to point out that the explosives on the island made it dangerous and hopelessly wasted.[38]

As America became more deeply involved in Vietnam, military pilots and gunners intensified their use of Kahoolawe for the purpose of "defense," naturally. By 1968, residents on the Valley Isle were becoming increasingly dissatisfied over the danger and noise created

by nearby barrages. The Navy dispatched a Lieutenant Commander King to address a town meeting at Kahului, Maui. He discussed the continued needs of the armed services in regard to Kahoolawe and was quoted as saying, "It's the best year-round training ground in the Pacific. This is the last chance for our fighting forces to practice before they go under fire in Vietnam." As if to discourage any thought of future State reclamation, Lieutenant Commander King presented a film showing highlights of napalm bombing and battleship shelling of the island. The Navy public relations staff could not resist the appeal of a little Prussian militarism and entitled their motion picture, "Kahoolawe is Kaput."[39]

Not long after King's speech, wider public attention was focused on Kahoolawe when a Hawaiian Air Tour Service airplane was almost obliterated by Navy aircraft making an unannounced bombing run in the area.[40] Almost a month later, Rear Admiral Bakutis, Commandant of the 14th Naval District Fleet, gave his assurance that 48 hour notices would be given prior to future military target practice. Further, for the protection and comfort of civilians, the admiral indicated that all targets were being removed to the isolated southwest end of Kahoolawe.[41]

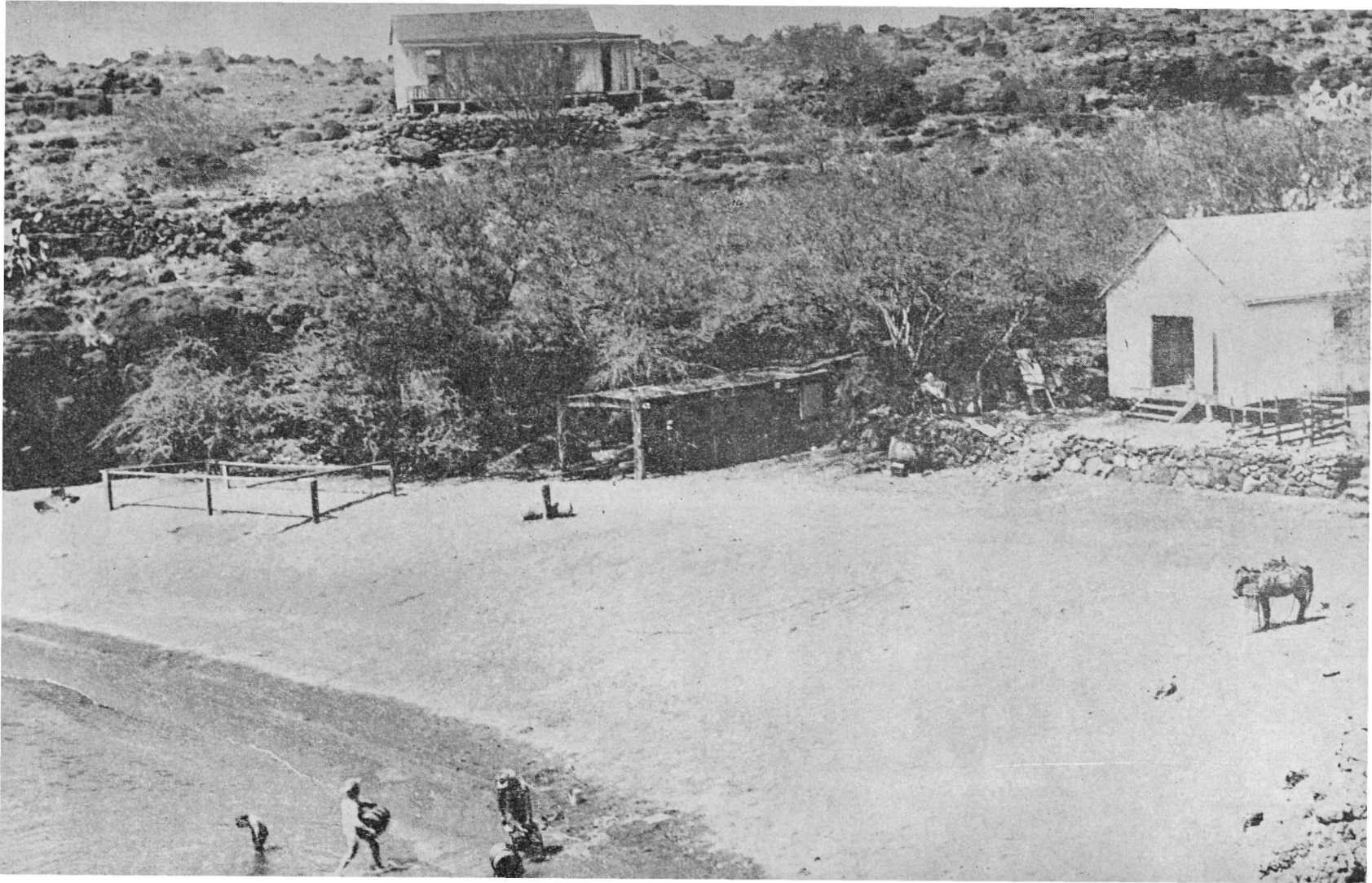
On a visit to Maui, Bakutis was confronted by Elmer Cravalho, Mayor of Maui County, who brought up the possibility of discontinuing the Naval bombardments altogether. Cravalho was holding considerable acreage under lease on lands adjacent to the target island and, not too surprisingly, his half of the conversation centered on the subject of distant financial opportunities.

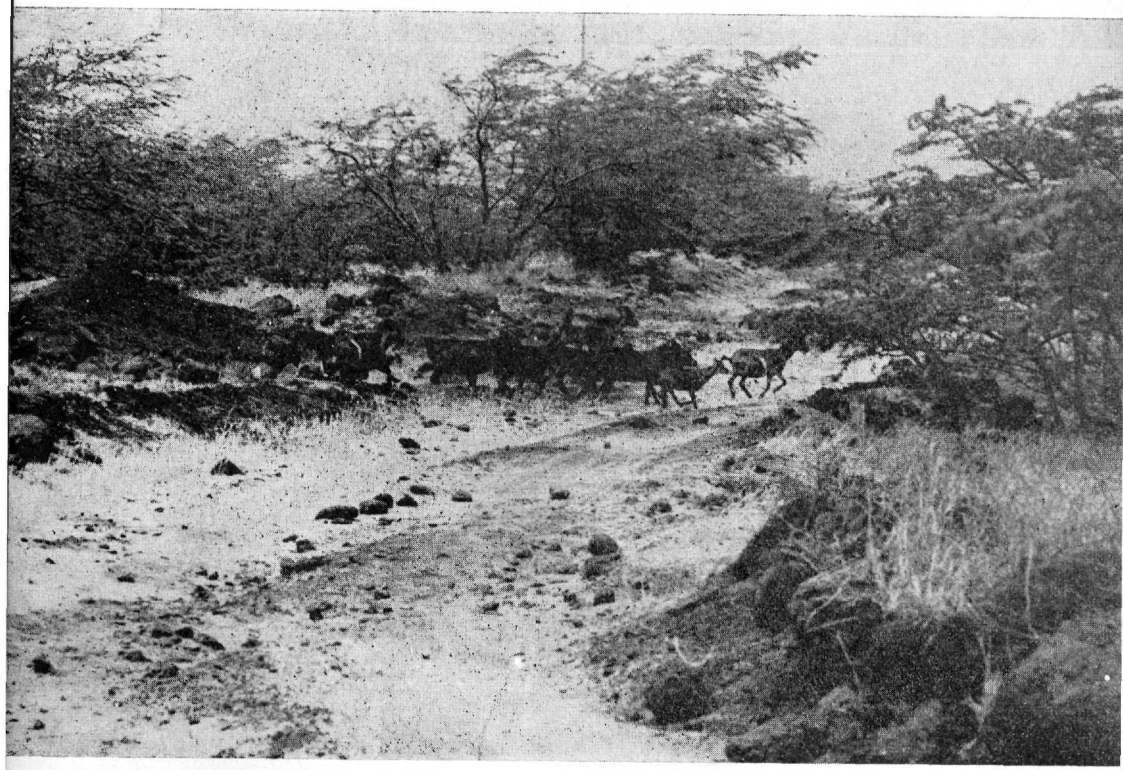
Cravalho: Suppose, it (the bombing) has an impact on development here. We re talking about the investment of hundreds of millions of dollars on this (Maui's southern) coast in the next twenty to twenty-five years.

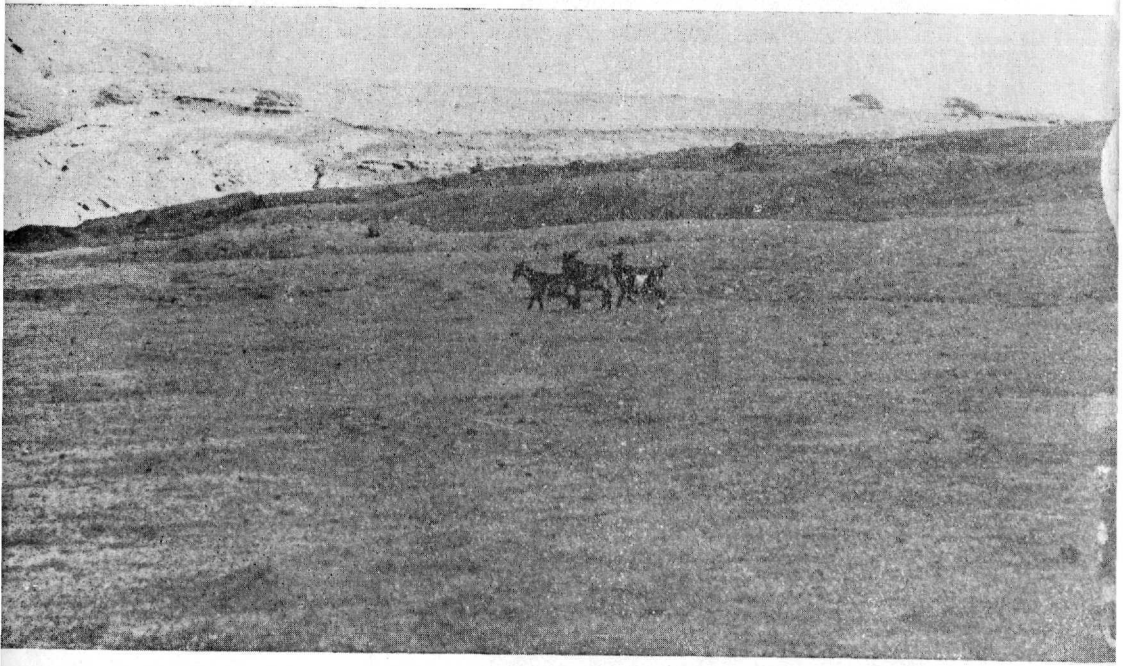
Bakutis: I can't comment on that, but I can assure you there's no danger to anyone on Maui.[42]

By September 1969, Cravalho began to push harder. He accused the Navy of not complying with the Executive Order of 1953 since, as he claimed, the goats and sheep on Kahoolawe were far above 200 in number. To halt erosion, Cravalho demanded that the military completely eliminate the area's sheep and goat population. The Navy replied that undetonated explosives made such a task almost impossible. Also, Naval spokesmen regarded a wholesale

3 Early twentieth century photo of the residents of Kahoolawe at Kuheia Bay. (State Archives of Hawaii)







slaughter of the animals as "palatable."[43]

Mayor Cravalho gained powerful support when a 500 pound bomb was found in one of his pastures. The discovery attracted the notice of Hawaii's delegates to Washington and they wasted little time in joining the fray. Representative Matsunaga (expressing his "continued deep concern" for the safety of Maui's people) as well as Senator Fong, protested against the bombardment of Kahoolawe to the Department of Defense. Representative Mink communicated her displeasure to the Secretary of the Navy,[44] while Maui's County Council asked President Nixon to immediately terminate all target practice activities off the Valley Isle's southern shores.[45] The Navy was uncertain of its direct responsibility in the incident. Nevertheless, Admiral John Hyland, Commander of the United States Pacific Fleet, promised that there would be redoubled effort, "to make sure we don't have a repeat of this one bomb that somehow or other found itself on the island of Maui."[46]

Senator Inouye was a late entrant in the controversy, but his relatively unique and brutal attack on the Navy was more than ample compensation for his tardiness. The senator responded to a military study which claimed that only 70% of Kahoolawe's land mass could be made safe for construction and farm machinery. In reference to the '53 Executive Order, Inouye stated that the Navy was guilty of a "deliberate lack of candor" which speeded the "continuing deterioration of the Department of Defense's credibility."[47]

Mayor Cravalho was not to be outdone. Early in 1970, the Maui County Council was considering the enactment of an ordinance making the bombing of Maui County, which included Kahoolawe, illegal.[48] Noticeably absent was any explanation of the method to be used to make certain the United States Government would adhere to county regulations. Rear Admiral Davis, Commander of the Hawaiian Sea Frontier, was undeterred. He quickly announced that neither target practice nor Naval jurisdiction over the target area would end in the foreseeable future.[49]

The 500 pound dud found on Maui was already losing its excitement value. But the press was giving increasing attention to war and environmental issues. Thus, Cravalho exhorted the Maui County Council to further action with,

In this day and age when the rallying cry of our citizen is focusing on the protection of our environment, as well as a deep and frustrating longing and searching for

4a and b Goats, the only residents of Kahoolawe today, at Lua Makika. (R. LeBarron, Division of Forestry, Dept. of Land and Natural Resources)

peace, it is inconceivable to me that we have a portion of our country being wantonly ravaged and destroyed, perhaps permanently, and all in the furtherance of war.[50]

Niihau, as a part of Kauai County, was unmolested. So, it was reasoned, Kahoolawe deserved the same treatment as a part of Maui County. The Mayor felt justified in organizing a special "task force committee" to help stop the bombing and to aid in the restoration of Maui's control over the island.[51] He was perhaps encouraged by State Senator John C. Lanham's introduction of a bill which would give the State Attorney General's Office an unspecific amount of money to be used in the creation of an injunction to halt Kahoolawe's bombardment.[52]

With all his initial success, Cravalho still encountered difficulties which would effect his partial retreat. Even on home ground he was not receiving unanimous backing. In June of 1970, only seven of a thirteen member Maui Citizen's Committee voted for a prompt cessation of target practice on Kahoolawe. Timothy Head, the Committee's chairman, emphasized that Hawaii's people should be made aware of the island's wealth of fertile land and beautiful beaches. But he admitted that the majority of his group was not in support of an immediate and unconditional return of Kahoolawe to civilian use.[53] Two weeks before the Citizen's Committee vote, Cravalho was showing a willingness to compromise. On a tour of the target site sponsored by the Navy, he proposed a county park along the island's beaches. It would be used by Mauians only on the weekends when the military was not conducting operations.[54] Nine months later, Cravalho would reiterate the plan adding the hope that holiday hunters could be provided with Navy guides. Thus, it was suggested, the eradication of Kahoolawe's animal population would be a form of recreation.[55]

In February 1970, the agitation started by Cravalho and the Maui County Council was causing more practical though less publicized reactions in other parts of Hawaii's community. Eisenhower's Executive Order stipulated that the local island government had the right to inspect as well as revegetate Kahoolawe. Pressure from the Hawaii Association of Soil and Water Conservation[56] helped move the State Department of Land and Natural Resources to insist upon putting its privileges into practice. The path appeared clear for rehabilitation efforts when Rear Admiral Davis assured the State of the Navy's "full co-operation in establishing an experimental conservation program on Kahoolawe."[57]

It was reasoned that the area's estimated 5,000 sheep and goats had to be exterminated before replanting could begin. A team of biologists landed on the island and left bite-sized chemically treated alfalfa. It was assumed that the diet would put the animals permanently to sleep.[58] But the results were depressing since most of the lethal distributions were left untouched. The desperate scientists scored their sole success when an emaciated, three-legged goat was captured and force fed to death.[59] There were other alternatives, of course. Mrs. Inez Ashdown, daughter of Angus MacPhee, recommended that the State hire sheepherders, "preferably Mexicans," who would drive the animals into pens where they could be tamed. It was assumed that the expenses of the operation would be met when the goats and sheep were sold. If no one else was willing to do the work, the aged Mrs. Ashdown offered her services for $100 per month. She promised that the task would be completed in a year's time.[60] Another solution was presented by Smith B. Green of Central Pacific Helicopters, Inc. in Honolulu. He suggested that the wild goats and sheep be shot with tranquilizer guns from helicopters. Naval demolition experts would assist in retrieving the game which would later be sold as food. Again, the costs of the scheme would be covered by the profits from the sale of fresh meat.[61] Neither plan was accepted. Mrs. Ashdown's proposal brought no comment at all and Green was told by Rear Admiral Davis that low-flying helicopters only forced the goats and sheep to run for shelter.[62] In at least Green's case, the Navy's skepticism was contagious. A little over a month after presenting his recommendation, he publicly abandoned it.[63]

With or without the bombs, sheep and goats, State officials decided that their conservation project had to continue. It was agreed that one-third of Kahoolawe would be reserved for target practice while the Department of Land and Natural Resources undertook reclamation of the rest of the island.[64] Forestry and land management professionals collaborated with Naval personnel and by January of 1971, fifteen hundred trees and shrubs were seeded. Torrential winter showers aided the cause and in April, three-fourths of the plants were listed as surviving.[65] On a mid-summer inspection of the island, Maui Councilman Yoneto Yamaguchi observed that Kahoolawe's valleys were "lush with greenery."[66]

Hopes for a productive Kahoolawe were not exclusively relegated to the designs of the Department of Land and Natural Resources. Kaare Gundersen, a professor of microbiology at the University of Hawaii, spent two years studying the possiblilities of locating a

power plant on the island. Professor Gundersen offered the following plan:

—Kahoolawe would house a large electric power plant, probably run by thermonuclear or geothermal energy. Special cables would connect all the islands and the transmission of current would fulfill Hawaii's electrical requirements.

—Water from a submarine canyon to the south of Kahoolawe would be used to cool the plant. About 2,000 acres of ponds could be constructed along the island's northwestern shore and the nutrient-rich sea water would be pumped into them after being discharged from the power plant's cooling system. Oysters, lobsters, crabs, shrimp and prawns could be raised there.

—Desalinated sea water would be produced from the power plant's waste heat and would provide some 15,000 acres of land on Kahoolawe with irrigation. Crops that satisfied Hawaii's needs could be grown there. The desalination process would have by-products, salt and rare metals, which might also prove to be useful.

—On the island's extreme southern shore a cove would be dredged and breakwaters constructed. Here sizable ships and Hawaii's tuna fleet could anchor and possibly relieve the congestion at Kewalo Basin.

—A three mile airport runway would be built on Kahoolawe's northwest side. It was estimated that flight time to Honolulu would be about thirty minutes.

Professor Gundersen's project depended upon the military relinquishing its authority over the island as well as the removal of all explosives.[67]

The proposal was widely covered in the press[68] but gained little substantial support. There were reasons for its lack of popularity. No attention was given to Maui's hunters and fishermen and Cravalho withheld his backing. The subject of State expenses was also left unmentioned and Hawaii's politicians managed to control their enthusiasm. Finally, Professor Gundersen did not win the approval of certain prominent members of his own department. Jack R. Davidson, Director of Sea Grant Program, believed that the plan, once begun, could only be financially self-sufficient in fifteen to twenty years.[69] John E. Bardach, Director of the Hawaii Institute of Marine Biology at Coconut Island, Kaneohe, claimed that the idea was "a pie in the sky" and as much as "thirty years ahead of its time."[70]

If Professor Gundersen had reasons to be discouraged, at least State officials could be slightly optimistic. Kahoolawe still abounded

with goats and sheep but the initial stages of the replanting program looked successful. More important, the Navy's benevolent willingness to share the island with conservation experts was interpreted to be evidence that the military would soon be abandoning the area.[71]

However reduced the acreage used for target practice, by mid-November 1970, there was still no appreciable slackening of Navy bombing operations.[72] In late January of next year, Pearl Harbor officers stated that the surrender of Culebra Island target site to Puerto Rico was not indicative of a similar policy in Hawaii . . . for the near future.[73] At about the same time, Senator Inouye received a letter from the Assistant Secretary of Defense for Installations and Logistics, Frank Sandars. Inouye was informed that, "it is not intended to make the island (Kahoolawe) excess to the needs of the Navy in the foreseeable future" since it would cost $1,000,000 to conduct a reasonable 70% surface clearance and less than 50% water clearance of undetonated explosives. In the senator's opinion the Department of Defense's credibility was still questionable and he remarked,

> It would appear that the Navy continues to insist that no such rehabilitation is possible and further—or perhaps therefore—there is no need to determine the (total) cost or feasibility because the Navy has no intent to ever return Kahoolawe to the State of Hawaii, even if the Navy's need should diminish. . . . With all the knowhow the Department of Defense has accumulated on explosives and detection, I just cannot believe that this is an impossible task. We did it in World War II in such bombed population centers as Berlin, Tokyo and elsewhere. Who are they trying to dissuade?[74]

Senator Inouye decided not to limit his dispute to newspaper quotations. In April of 1971, he gained the support of Representatives Mink and Matsunaga[75] and presented a bill in Congress which required that the Navy return Kahoolawe to the State of Hawaii by no later than December 31, 1971.[76] The example of Culebra Island was dwelt upon as well as the Federal Government's obligation to remove all "live" bombs and shells.[77]

The Navy proved to be as untractable as ever. Rear Admiral Thomas B. Hayward, 14th Naval District Commandant, recognized the advantages of using Hawaii's dominant obsession—money—to bolster his arguments. A month after Inouye introduced his bill, Hayward told a Rotary Club meeting on Maui that the Navy needed Kahoolawe through the year 2000. If denied the island's use, "drastic measures" would have to be considered. These included the transfer of Navy and Marine units from Hawaii to Guam or Micronesia. The

admiral added, "And *none* of us wants that alternative because the *cost* would be stupendous."[78] Showing more unity than the Maui Citizen's Committee on Kahoolawe, the Chamber of Commerce of Hawaii unanimously voted to back the Navy's position. The businessmen agreed that any removal of armed forces personnel from the islands would be a serious detriment to the local economy. C. J. Cavanagh, the president of the group, said that the Chamber of Commerce was not exactly supporting permanent military authority over Kahoolawe because in five years new types of aircraft or international peace agreements "and all the rest of it" might make target practice in the area unnecessary.[79]

The reaction to the Chamber of Commerce's decision was swift and, for the most part, negative. Predictably, Cravalho had a comment: "How any logical thinking person in the state of Hawaii can maintain that desecretion and ruination of extremely limited real estate is justifiable is beyond my comprehension."[80] An *Advertiser* editorial could not understand how the Navy's presence in the Islands was so heavily dependent upon target practice on Kahoolawe. Moreover, it was seen that the Chamber of Commerce of Hawaii was "overwhelmed by the Navy's statements and letting limited economic fears perpetuate an activity that must stop sooner rather than later."[81] In a letter to W. Beggs, manager of the Maui Chamber of Commerce, Senator Inouye emphasized that "decisions to move are not made (solely) by the service concerned but also by the Congress. . . ." As a member of the Senate Appropriations Committee, Inouye assured the Mauians that "drastic measures" relative to massive military movements out of Hawaii would not meet his approval.[82]

The dust was not allowed to settle when John H. Chafee, Secretary of the Navy, came to the Islands for a conference with Marine and Navy officers. Chafee stated that his department was anticipating neither a joint use of Kahoolawe as a park and target area, nor its complete restoration to the State of Hawaii. Mayor Cravalho and Maui Councilmen Goro Hokama and Yoneto Yamaguchi immediately expressed bitter dissatisfaction.[83] Senator Inouye made an effort to be more diplomatic. He reported that it would be easier to work with the Navy since Rear Admiral Hayward, "unlike his predecessors, . . . is attempting to be accommodating and receptive." Inouye also admitted that Cravalho's plan to share Kahoolawe might be unfeasible because "the risk of accidental shelling will always exist."[84]

Rear Admiral Hayward remained defensive. In the early autumn

of 1971 he told the Kiwanis Club of Maui that he was "disturbed by the absence of appreciation" for the Navy's need for Kahoolawe; that he wanted all sides of the argument exposed so Hawaii's people could "clearly understand the issue;" and that Secretary Chafee had positively avoided implying that the Navy would retain the island forever. Hayward concluded his talk by pointing out that the Navy had taken steps to make bombardment less objectionable by minimizing target areas and bomb loads.[85]

The admiral had good reason to be on his guard. Popular interest concerning Kahoolawe seemed to be declining after Chafee's talk, but there were still pockets of resistance which continued to trouble the Navy. In late July, Cravalho and Life of the Land, a local ecology group, filed a suit against Secretary of the Defense Laird, Secretary of the Navy Chafee and Rear Admiral Hayward. The plaintiffs contended that the defendants had failed to abide by the National Environmental Policy Act of 1969 which required that the military submit detailed reports on the effects of bombardment on Kahoolawe's terrain to Hawaii's public. Cravalho claimed there were two motives for his part in the suit. First, as the Mayor of Maui County, he hoped that the action would aid in returning Kahoolawe to Maui's jurisdiction. Second, as a private citizen, he was concerned about the bomb dropped in his pasture in 1969. Life of the Land announced that its participation in the suit was moved by only one desire—to insure that the State's land resources were properly used and preserved.[86]

By November 1971, the Department of Defense filed a statement which gave facts and figures relative to the total annual bomb tonnages dropped on Kahoolawe since 1967. Also, a short discussion was given concerning the island's indigenous plants. In addition to the data presented, the Department felt compelled to restate the Navy's predicament with, "There is no satisfactory alternative site available for Naval use." To this, Thomas M. Pico, attorney for the plaintiffs, replied that the Federal Government's statement was "not sufficient" . . . and that, "We are not asking for the return of Kahoolawe today. We are only asking for the (complete) Environmental Impact Statement." Federal Judge C. Nils Tavares ruled that the Navy and the Department of Defense had until January 20, 1972 to submit more information.[87]

There was a long wait of almost five months before final judgment was cast. In mid-May of 1972, the Navy submitted a report which deemphasized the effects upon the target site and instead claimed, "The environmental effect of weapon exercises upon the ecology or

ecological system of other nearby islands of the Hawaiian archipelago will remain negligible." This was apparently enough for Judge Tavares who dismissed the suit of Cravalho and Life of the Land on May 16, 1972.[88]

Late in the Kahoolawe controversy, targets were no longer limited to the bombing practice area or the United States Navy. Life of the Land considered current hotel construction along Maui's southern shore as distressing as the military bombardments a few miles away. Tony Hodges, president of the ecologists, could see the possibility of Alexander & Baldwin's Wailea resort area being hit by a stray bomb or shell. He advised:

> Perhaps Alexander & Baldwin should include some sort of anti-aircraft batteries in its master plan. This would not hurt the present design too much since getting to the beach will already be like trying to get through the Maginot Line.[89]

RED DUST IN THE SUNSET

Kahoolawe's bombardments alternate between sea barrages and aerial bombing. Sea-to-surface missiles and high caliber gunfire from Navy vessels pound the island an average of two days and two nights a week. Navy and Marine aircraft drop 200–500 pound bombs three days and two nights a week.[90] A termination of the target practice tomorrow, next week, next month or next year is highly unlikely. If the attention devoted to the issue by Honolulu's newspapers is a fairly accurate index, then public interest concerning the Kahoolawe dispute has already begun to wane within the last year. Likewise, Congress has had to deal with its usual assortment of world and national problems so that a careful study of Inouye's bill of April 27, 1971 has been neglected.

The participation of Hawaii's politicians in the contest brings up the question of motives. Only Senator Inouye has managed to remain consistent, vigorous and rational throughout the controversy. In the face of threats of a military withdrawal from Hawaii—which might have meant financial losses, civilian unemployment and, hence, lost votes—Inouye still pushed for full State jurisdiction over Kahoolawe.

Naval officers and the animals of Kahoolawe have exhibited a strikingly similar streak of stubbornness. At times, one could almost suspect an unannounced alliance between the two groups. The Navy has not been eager to conduct the complete extermination of the goats and sheep, and for their part, these durable inhabitants of

the island have not complained about the target practices. If the animals continue to multiply and destroy Kahoolawe's vegetation, full rehabilitation would be impossible, but the Navy's position more secure.

Naval personnel express hurt astonishment when there is any suggestion of placating Maui's hunters and fishermen at the expense of "national defensive readiness." Yet, below the surface, the military mind is not likely to be very troubled. Custom is on the Navy's side since customarily the Department of Defense has not been inclined to give up its holdings. The State revegetation program on two-thirds of Kahoolawe might be viewed as a partial capitulation to Hawaii's government, but the Navy continues to retain full authority over the island. Finally, Naval policy makers are possibly comforted by the fact that any monetary backing for Gundersen's proposal (perhaps the only practical and realistic reclamation plan in existence for Kahoolawe) is out of the question.

The alternative to a State power plant would be a park or game preserve. Still, the successful accomplishment of this idea would not necessarily be to the advantage of Hawaii's people. From Nawiliwili, Kauai, to Kona, Hawaii, progress has accelerated to a dizzy pace. Kamaaina residents are realizing that there is real loss when mountains and forests have been replaced by concrete condominiums, hotels and asphalt superhighways. The two almost complete exceptions to the trend in Hawaii are Niihau and Kahoolawe. Both islands remain fixed in time while the joys of progress and industrialized civilization clatter around them.

It is, of course, well within the realm of possiblities that Kahoolawe could be reclaimed by the State as a park. But land is in demand in the Islands. As Hawaii's population grows, even park areas would have to be made available for building development.[91] Moreover, the destiny of Kahoolawe will affect surrounding islands. With the ending of bombardments, the tourist industry might expand more rapidly on Molokai, Lanai and Maui.

The citizens of Hawaii are thus faced with a distasteful choice: Is the cessation of Naval target practice on Kahoolawe worth more whitewashed hotels and blacktop roads? For some Islanders there would be a sad satisfaction in allowing the Navy's continued use of the area.

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[16] W. F. Allen to Wyllie and Allen, May 31, 1858 (Wyllie Collection, M-162, AH).

[17] William Webster to Wyllie, June 2, 1859 (Wyllie Collection, M-162, AH).

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